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76-1-TR

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JULY 1974 - JUNE 1975**

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July 1975

**UNITED STATES ARMY  
NATICK DEVELOPMENT CENTER  
NATICK, MASSACHUSETTS 01760**



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## FOREWORD

In March 1975, the U. S. Army Natick Laboratories was redesignated as the U. S. Army Natick Development Center.

This bibliography is a list of technical publications and papers by personnel of the U. S. Army Natick Development Center and its contractors for the period July 1974 through June 1975. The arrangement is by organizational elements. In most instances where an article was prepared jointly by personnel of more than one laboratory, the citation is listed fully under the laboratory of the senior author with a "see" reference under the laboratory of the junior authors.

Reprints of journal articles, in some cases, are available from the individual authors. Copies of technical reports may be obtained from (1) The Defense Documentation Center, Cameron Station, Alexandria, Virginia 22314, or (2) the National Technical Information Service, Springfield, Virginia 22161. The "AD" number should be cited when ordering copies of reports. Those reports marked with an asterisk (\*) are not available for distribution outside the agencies of the U. S. Government. Technical papers refer to presentations for which no printed copies exist.

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Technical Documentation Office

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U.S. ARMY NATICK DEVELOPMENT CENTER

OFFICE OF THE COMMANDER

Technical Papers

1. LESTER, R. E., JR. Natick looks at the future. Spring Meeting, Research & Development Associates for Military Food & Packaging Systems, Inc, New York, NY, April 1975.
2. \_\_\_\_\_ Army contributions to society. Natick Rotary Club, Natick, MA, June 1975.

DEPUTY COMMANDER

Technical Papers

3. CHANT, R. J. Remarks. Race Relations Training, US Army Natick Laboratories, Natick, MA, 27 August 1974.
4. \_\_\_\_\_ Remarks. US Army Natick Laboratories Women's Club Meeting, US Army Natick Laboratories, Natick, MA, 11 September 1974.
5. \_\_\_\_\_ Organization, mission and selected RDTE activities of US Army Natick Laboratories. US Army Officers Advanced Class 75-1, US Army Quartermaster School, Fort Lee, VA, 23 September 1974.
6. \_\_\_\_\_ Remarks. Race Relations Training, US Army Natick Laboratories, Natick, MA, 24 September 1974.
7. \_\_\_\_\_ Remarks. Supervisory Training on Alcoholism, US Army Natick Laboratories, Natick, MA, 22 October 1974.
8. \_\_\_\_\_ Remarks. Supervisory Training on Alcoholism, US Army Natick Laboratories, Natick, MA, 29 October 1974.
9. \_\_\_\_\_ Meeting the challenges that lie ahead. US Army QM Graduating Class 75-2, US Army Quartermaster School, Fort Lee, VA, 6 November 1974.
10. \_\_\_\_\_ Your Army and our country. Seventh Annual Service of Patriotism, Mission Evangelical Congregational Church, Maynard, MA, 10 November 1974.
11. \_\_\_\_\_ Remarks. Dr. Martin Luther King, Jr. Memorial Program, US Army Natick Laboratories, Natick, MA, 15 January 1975.
12. \_\_\_\_\_ Selected materiel acquisition and RDTE activities. US Army QM New Advanced Class, US Army Quartermaster School, Fort Lee, VA, 25 March 1975.

DOD JOINT TECHNICAL STAFF

Journal Articles

13. BOURLAND, C. T., N. D. HEIDELBAUGH, C. S. HUBER, P. R. KISER, and D. B. ROWLEY. Hazard analysis of Clostridium perfringens in the Skylab Food System. J. Milk Food Technol., 37(12): 624-628 (1974).
14. WEST, K. P. DOD Food RDT& Eng Program. U. S. Navy Supply Corps Newsletter, May-June 1974.

Technical Papers

15. BARBE, C. D. Current status of Army portion DOD Food RDT& Engineering Program. Command Group, US Army Troop Support Agency, Fort Lee, VA, 20 August 1974.
16. \_\_\_\_\_ US Army research requirements. Fall Meeting, Research & Development Associates for Military Food & Packaging Systems, Inc., US Army Natick Laboratories, Natick, MA, 16 October 1974.
17. BELCHER, W. R. US Marine Corps research requirements. Fall Meeting, Research & Development Associates for Military Food & Packaging Systems, Inc., US Army Natick Laboratories, Natick, MA, 16 October 1974.
18. HEIDELBAUGH, N. D. Industrial implications of space food technology. Prescott-Underwood Award Luncheon, Massachusetts Institute of Technology and Wm. Underwood Co., Museum of Science, Boston, MA, 1 October 1974.
19. \_\_\_\_\_, and R. M. MERWIN. Implications of the Travis Air Force Base Food Systems Study. Spring Meeting, Research & Development Associates for Military Food & Packaging Systems, Inc., New York, NY, 9 April 1975.
20. \_\_\_\_\_ Industrial applications of space food technology. Institute of Food Technologists Meeting, Northeast Section, Arthur D. Little, Inc., Cambridge, MA, 13 May 1975.
21. WEST, K. P. US Navy research requirements. Fall Meeting, Research & Development Associates for Military Food & Packaging Systems, Inc., US Army Natick Laboratories, Natick, MA, 16 October 1974.



## OFFICE OF TECHNICAL DIRECTOR

### Technical Reports

22. ROSS, E. W., Jr. A computer simulation of bacterial growth during food processing. 75-37-OTD, November 1974.

### Journal Articles

23. BARKER, B. E., M. F. FOX, E. HAYON, and E. W. ROSS. Simple digital method for resolving overlapping electronic absorption bands. Anal. Chem., 46(12): 1785-1789 (1974).

### Technical Papers

24. ANDERSON, E. E. Update on new R&E in dehydrated or convenience foods. 10th Annual Meeting, Dehydrated & Convenience Food Industry Council, Defense Supply Agency, Cameron Station, Arlington, VA, 12 September 1974.
25. \_\_\_\_\_ Moderator: Energy conservation measures. Fall Meeting, Research & Development Associates for Military Food and Packaging Systems, Inc., US Army Natick Laboratories, Natick, MA, 16 October 1974.
26. \_\_\_\_\_ Recent developments in subsistence; DOD food program. Massachusetts Army National Guard, Commonwealth Armory, Boston, MA, 18 December 1974.
27. \_\_\_\_\_ Highlights of the DOD Food Research, Development, Testing and Engineering Program. Symposium on New Developments in Food Service, National Security Industrial Association, Washington, DC, 7 January 1975.
28. \_\_\_\_\_ Significant events in the 1974 DOD Food R&D Program. National Research Council, General Committee on DOD Food Program, US Army Natick Development Center, Natick, MA, 4 March 1975.
29. \_\_\_\_\_ Single program element funding in DOD Food Program. Ad Hoc Working Group, Army Scientific Advisory Panel, US Army Natick Development Center, Natick, MA, 13 March 1975.
30. FLANAGAN, J. H. Overview of technical programs. Presented to Mr. Hyman Fine, Professional Staff Member, Senate Armed Services Committee, US Army Natick Laboratories, Natick, MA, 31 July 1974.

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Technical Papers (continued)

31. FLANAGAN, J. H. Overview of technical programs. Presented to Dr. John L. Allen, Deputy Director, Research & Advanced Technology, ODDRE, US Army Natick Laboratories, Natick, MA, 20 August 1974.
  32. \_\_\_\_\_ Subsistence specifications support. Presented to Headquarters, Army Materiel Command, Alexandria, VA, 17 September 1974.
  33. \_\_\_\_\_ Subsistence specifications support. Presented to Honorable Eugene E. Berg, Assistant Secretary of the Army (I&L), Washington, DC, 18 September 1974.
  34. \_\_\_\_\_ Briefing on Natick Laboratories. Presented to Honorable Herman R. Staudt, Under Secretary of the Army, US Army Natick Laboratories, Natick, MA, 13 November 1974.
  35. \_\_\_\_\_ AMC RD&E Review, 1st Quarter FY 75, US Army Natick Laboratories. Army Materiel Command RD&E Review, US Army Natick Laboratories, Natick, MA, 19 November 1974.
  36. \_\_\_\_\_ Briefing on Natick Laboratories. Presented to Honorable Norman R. Augustine, Assistant Secretary of the Army, US Army Natick Laboratories, Natick, MA, 20 November 1974.
  37. \_\_\_\_\_ Specifications and standardization for food and equipment. Symposium on New Developments in Food Service, National Security Industrial Association, Arlington, VA, 7-8 January 1975.
- HEILIGMAN, F., J. J. KILLORAN, A. ANELLIS, R. W. BAKER, C. MERRITT, JR., A. BRYNJOLFSSON, E. WIERBICKI, and E. S. JOSEPHSON. See entry no. 160.
38. JOSEPHSON, E. S., A. BRYNJOLFSSON, and E. WIERBICKI. The use of ionizing radiation for preservation of food and feed products. 5th International Congress of Radiation Research, Seattle, WA, 14-20 July 1974.
  39. \_\_\_\_\_, M. H. THOMAS, and W. K. CALHOUN. Effects of ionizing radiation upon food nutrients - a review and update. 4th International Congress of Food Science and Technology, Madrid, Spain, 23-27 September 1974.

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Technical Papers (continued)

40. JOSEPHSON, E. S. Use of ionizing radiation for the preservation of food. University of Tennessee, Knoxville, TN, 1 October 1974.
41. \_\_\_\_\_ Use of ionizing radiation for the preservation of food. Vanderbilt University, Nashville, TN, 2 October 1974.
42. \_\_\_\_\_ New food preservation processes to feed a hungry world. Bard College, Annandale-on-Hudson, NY, 10 March 1975.
43. \_\_\_\_\_ The use of ionizing radiation for preservation of food and feed products. Arizona State University, Tempe, AZ, 18 April 1975.
44. \_\_\_\_\_ Food irradiation: status and problems. Massachusetts Institute of Technology, Boston, MA, 25 April 1975.

Other Publications

45. ANDERSON, E. E. Food research and development program. Department of Defense. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 445-446.  
  
HEILIGMAN, F., J. J. KILLORAN, A. ANELLIS, R. W. BAKER, C. MERRITT, JR., A. BRYNJOLFSSON, E. WIERBICKI, and E. S. JOSEPHSON. See entry no. 219.
46. JOSEPHSON, E. S., M. H. THOMAS, and W. K. CALHOUN. Effects of ionizing radiation upon food nutrients - a review and update. Abstract of Papers, 4th International Congress of Food Sciences and Technology, 23-27 September 1974, p. 515.
47. \_\_\_\_\_ Radiation processing of foods. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 734-741.

ENGINEERING PROGRAMS MANAGEMENT OFFICE

Journal Articles

48. ROTH, L. M. A new cockroach genus (Gurneya) previously confused with Pinaconota (Blaberidae: Epilamprinae). Psyche, 81(2): 288-302 (1974).

Technical Papers

49. ROTH, L. M. Oviposition behavior. Boston University Class on Animal Behavior, Woods Hole Oceanographic Institute, Woods Hole, MA, 21 January 1975.
50. \_\_\_\_\_ Courtship and mating behavior in insects. Boston University Class on Animal Behavior, Woods Hole Oceanographic Institute, Woods Hole, MA, 21 January 1975.

## OPERATIONS RESEARCH AND SYSTEMS ANALYSIS OFFICE

### Technical Reports

51. BRANDLER, P., C. CHANG, R. DEACON, A. E. FREY, and G. E. LIVINGSTON. The basic level of feeding: a comparison of military and comparable civilian food utilization. 75-43-OR/SA, August 1974 (AD A003 822).
52. \_\_\_\_\_ The development of alternative food cost indexes. 75-67-OR/SA, November 1974 (AD A009 096).
53. \_\_\_\_\_, and R. DEACON. Patterns of food utilization in the DoD, Volume 1. 75-65-OR/SA, November 1974 (AD A009 064).
54. BUSTEAD, R. L., R. J. BYRNE, and M. M. DAVIS. An evaluation of food service systems at Ft. Myer, Bolling AFB and Ft. Benjamin Harrison. 75-36-OR/SA, September 1974.
55. DAVIS, M. M. A nutritional evaluation of the experimental food service system at Travis AFB, California. 75-7-ORSA, July 1974 (AD A002 223).
56. \_\_\_\_\_, and J. R. WETMILLER. A work analysis of food service personnel at Travis AFB, California. 74-35-OR/SA, July 1973.
57. HERTWECK, G., and R. L. BUSTEAD. An evaluation of Air Force food service operations at Travis AFB. 75-34-OR/SA, June 1974 (AD A007 124).
58. \_\_\_\_\_, R. L. BUSTEAD, D. P. LEITCH, M. M. DAVIS, J. R. WETMILLER, and T. T. MATTUS, JR. Experimental evaluation of the Flight-Line Food Service Facility at Travis AFB. 75-4-OR/SA, June 1974 (AD A004 012).
59. \_\_\_\_\_, R. L. BUSTEAD, D. P. LEITCH, M. M. DAVIS, J. R. WETMILLER, and T. T. MATTUS, JR. Experimental evaluation of the specialty meal service at Travis AFB. 75-13-OR/SA, July 1974 (AD A003 224).
60. MATTUS, T. T., JR., G. HERTWECK, and D. P. LEITCH. A consumer evaluation of the Experimental Food Service System at Travis AFB, California. 75-8-OR/SA, June 1974.
61. PILGER, R. E. Development of a concept for a field kitchen reconstitution system. Foster D. Snell, Inc., Contract No. DAAG17-73-C-0290. 75-12-ORSA, May 1974 (AD 787 276).

## OPERATIONS RESEARCH AND SYSTEMS ANALYSIS OFFICE

### Technical Reports (continued)

62. ROGOZENSKI, J. A computer system for menu evaluations and related applications. 75-50-OR/SA, November 1974 (AD A007 113).
63. \_\_\_\_\_, and H. R. MOSKOWITZ. A system for the preference evaluation of cyclic menus. 75-46-OR/SA, October 1974.
64. SMITH, R. S., I. E. STEFANIW, M. M. DAVIS, and H. J. KIREJCZYK. A system evaluation of consolidated field feeding for the Army. 75-83-OR/SA, February 1975 (AD A007 117).
65. WETMILLER, J. R. An analysis of attendance patterns in the experimental food service system at Travis AFB. 75-75-OR/SA, December 1974 (AD A007 116).
66. \_\_\_\_\_, and T. T. MATTUS, JR. An analysis of consumer nutrition in the Exp. Food Service System at Travis AFB. 75-70-OR/SA, January 1975.

### Technical Papers

67. BYRNE, R. J. Insights into the future. DA Conference on Food Service, Fort Lee, VA, 18-20 November 1974.
68. ROGOZENSKI, J. A system for the quantitative evaluation of menu preferences. Army Operations Research Symposium XIII, Fort Lee, VA, 31 October 1974.

## TECHNICAL DOCUMENTATION OFFICE

### Technical Reports

69. Bibliography of technical publications and papers: July 1973-June 1974, US Army Natick Laboratories. 75-1-TR, July 1974 (AD A005 176).

## AERO-MECHANICAL ENGINEERING LABORATORY

### Technical Reports

70. AHLADAS, J. P. Data retrieval and processing system - a user's guide. Hamilton Standard, Division of United Aircraft, Contract No. DA-19-129-AMC 603(N). 75-45-AMEL, January 1975.
71. BARCA, F. D. Acquisition of climatic data during transportation and storage of containers. 75-78-AMEL, April 1975 (AD A008 958).
72. DUNHAM, T. D., H. G. PENNICK, D. D. KANA, and A. NAGY. Development of optimization procedure for design of package cushioning. Southwest Research Institute, Contract No. DAAG17-73-C-0239. 75-44-AMEL, January 1975 (AD A006 645).
73. HEINRICH, H. G., R. A. NOREEN, and D. P. SAARI. A parachute opening shock theory based on non linear time histories of inflow velocity and projected area. University of Minnesota, Contract No. DAAG17-73-C-0174. 75-10-AMEL, May 1974 (AD A005 271).
74. NICKERSON, C. L. Low power impact velocity and acceleration recording system with piezoelectric inputs. 75-29-AMEL, December 1974.
75. REMINGTON, P. J., J. C. O'CALLAHAN, and R. MADDEN. Analysis of stresses and deflections in frame supported tents. Bolt, Beranek and Newman, Inc., Contract No. DAAG17-73-C-0107. 75-31, April 1974.
76. STEEVES, E. C. Behavior of pressure stabilized beams, under load. 75-82-AMEL, May 1975.
77. ——— A linear analysis of the deformation of pressure stabilized beams. 75-47-AMEL, January 1975.

### Technical Papers

78. STEEVES, E. C. Buckling of orthotropic rectangular cylinder. 21st Conference of Army Mathematicians, May 1975.



## CLOTHING, EQUIPMENT AND MATERIALS ENGINEERING LABORATORY

### Technical Reports

79. ARONS, G. N., and R. N. MACNAIR. Evaluation of fibers containing a reaction product of chloromethylated styrene polymer and diethylenetriamine. 74-52-CE (C&PLSEL-128), June 1974 (AD 921 398L).\*
80. BELL, J. P., S. J. HUANG, and J. R. KNOX. Synthesis and testing of polymers susceptible to hydrolysis by proteolytic enzyme. University of Connecticut, Contract No. DAAG17-73-C-0002. 75-48-CEMEL, August 1974.
81. CLAUS, W. D., L. R. MCMANUS, and P. E. DURAND. Development of headforms for sizing infantry helmets. 75-23-CEMEL (CE&MEL-131), June 1974 (AD 787 277).
82. COLEMAN, R. A. Application of infrared absorbers to nylon 6,6. American Cyanamid Co., Contract No. DAAG17-73-C-0173. 75-19 (CE&MEL-130), July 1974 (AD A000 832).
83. DODDI, N. Polyamides and polysulfonamides from hexahydrobenzodipyrrole. 74-32-CE (C&PLSEL-122), April 1974 (AD 783 496).
84. GANNON, W. T., et al. Study and development of infusible and incorrodible ID tags and microdots. General Electric Co., Contract No. DAAG17-72-C-0097. 75-27-CEMEL (CEMEL-133), September 1974.
85. HERZ, M. L. Characterization of selected triarylmethane leuconitriles. 73-40-CE, (C&PLSEL-104), March 1973 (AD 787 278).
86. LAIBLE, R. C., and M. R. DENOMMEE. Laminates for ballistic protection. 75-76-CE (CE&MEL-140), February 1975.
87. MACDONALD, J. L., and E. SWIDER. Conceptual combat footwear study. IIT Research Institute, Contract No. DAAG-17-73-C-0147. 75-9-CEML (C&PLSEL-125), April 1974 (AD 787 518).
88. MANGELSDORF, D., M. GOLDBERG, and H. SANTACHI. Prototype cold weather headwear. Synsis, Inc., Contract No. DAAK03-74-C-0030. 75-42-CE, (CE&MEL-137), October 1974.
89. MELLO, J. E., and E. P. SYLVIA. In-house value engineering on mattress, bed, innerspring. 75-21 (CE&MEL-126), May 1974.

## CLOTHING, EQUIPMENT AND MATERIALS ENGINEERING LABORATORY

### Technical Reports (continued)

90. SMITH, M. J. Development of fibers containing a reaction product of chloromethylated styrene polymer and diethylene-triamine. Uniroyal, Inc. Contract No. DAAG17-72-C-0017. 74-55-CE (C&PLSEL-127), June 1974. (AD 782 767).
91. VAN TWISK, R. J. Production of electrically heated gloves. Uniroyal Consumer Products, Contract No. DAAG17-73-C-0242. 75-39-CE (CE&MEL-135), September 1974.
92. ZWEIG, A., and G. W. NACHTIGALL. The design and synthesis of infrared fluorescent colorants. American Cyanamid Co., Contract No. DAAG17-73-C-0203. 75-30 (CE&MEL-134), November 1974 (AD A005 082).

### Journal Articles

93. ARONS, G. N., and R. N. MACNAIR. Activated carbon fabric prepared by pyrolysis and activation of phenolic fabric. Text. Res. J., 45(1): 91 (1975).
94. \_\_\_\_\_ R. W. MACNAIR, L. G. COFFIN, and H. D. HOGAN. Sorptive textile systems containing activated carbon fibers. Text. Res. J., 44(11): 874-883 (1974).
95. DISALVO, A. L. Polyhexamethyleneurea: synthesis via a silylated intermediate. J. Polym. Sci., Polym. Lett. Edition, 12(11): 641-644 (1974).
96. \_\_\_\_\_, and J. H. CORNELL. Thermal degradation of polyurethanes by hexamethyldisilazane: Syntheses of polyhexamethyleneurea with organosilicon reagents. J. Polym. Sci. - Polym. Chem. Edition, 13(1): 97-104 (1975).
97. KIRKWOOD, B. H. Scanning electron microscope investigation of morphological characteristics of laboratory and field wear in military fabrics. Text. Res. J., 44(7): 545-555 (1974).
98. LAIBLE, R. C., F. FIGUCIA, and B. H. KIRKWOOD. Scanning electron microscopy of high-speed fiber impact phenomena. Appl. Polym. Symp., No. 23, 181-191 (1974).
99. SELIGSBERGER, L. Abrasion resistance of soling materials. J. Amer. Leath. Chem. Ass., 70(1): 6-17 (1975).

## CLOTHING, EQUIPMENT AND MATERIALS ENGINEERING LABORATORY

### Journal Articles (continued)

100. SELIGSBERGER, L., and R. F. LACERTE. Comparative instrumental evaluation of water resistant upper leathers. J. Amer. Leath. Chem. Ass., 70(2): 66-75 (1975).
101. \_\_\_\_\_ Water vapor permeability of leather-like sheet materials - a new approach. J. Amer. Leath. Chem. Ass., 70(3): 98-113 (1975).

### Technical Papers

102. CLAUS, W. D., JR. A unique head measuring device and its application to anthropomorphic headform design. Annual Meeting, American Society of Mechanical Engineers, New York, NY, 21 November 1974.
103. HANSEN, J. V. E. A non-destructive testing approach to the assessment of degraded textile fibrous materials. Defense Conference on Non-destructive Testing, 23rd NDT Meeting, San Francisco, CA, 4-6 September 1974.
104. MCQUADE, A. J. A look at flammability control systems. New England Region Technical Conference, American Association of Textile Chemists and Colorists, Falmouth, MA, 10 May 1975.
105. RIZZO, F. J. Wool--its future in military and civilian life. American Textile Manufacturers Institute, Palm Beach, FL, 8-10 December 1974.

### Patents

106. DENOMMEE, M. R. Ballistic armor of plies of nylon fabric and plies of glass fabric. US Patent No. 3,832,265, 27 August 1974.
107. DURAND, P. E., and L. H. NORRIS. Shock absorbent collar for armor plate. US Patent No. 3,858,241, 7 January 1975.

CLOTHING, EQUIPMENT AND MATERIALS ENGINEERING LABORATORY

Patents (continued)

108. DURAND, P. E., and L. H. NORRIS. Body armor systems. US Patent No. 3,873,996, 1 April 1975.
109. MCQUADE, A. J., and G. N. ARONS. Reinforced carbon fabrics. US Patent No. 3,850,785, 26 November 1974.

## FOOD ENGINEERING LABORATORY

### Technical Reports

110. BOWLES, W. A., V. A. ADOMAITIS, J. B. DEWITT, and J. J. PRATT, JR. Relationship between chemical structure and rat repellancy. II. Compounds screened between 1950 and 1960. 75-11-FEL, August 1974 (AD A005 157).
111. COHEN, J. S., L. J. RICE, and E. WIERBICKI. Measurement of cohesiveness of fabricated, irradiated meat rolls. 74-45-FL (FL-193), April 1974 (AD 786 523).
112. CULLER, R. D., and W. J. STADELMAN. Quick eggs for self-service line. 74-50-FL (FL-195), April 1974 (AD 786 508).
113. DRAKE, S. R., and R. D. CULLER. Effect of textured vegetable protein and skin content on cooked turkey roll. 75-17-FEL (FEL-4), August 1974 (AD A000 683).
114. FITZMAURICE, W. J., W. G. LEE, and J. L. SECRIST. Pollock (Pollachius Virens) as a food fish for military procurements. 75-57-FEL (FEL-17), February 1975 (AD A008 376).
115. HARRIS, N. E., D. E. WESTCOTT, K. R. JOHNSON, and J. A. WESTERLING. Replacement sugar syrup with high-fructose syrup in imitation maple syrup. 75-72-FEL (FEL-29), January 1975.
116. HELMER, R. L., and H. T. SCHLUP. Meat entree item production guides developed for use in Ft. Lee interim Central Food Preparation Facility. 74-27-FEL (FEL-12), March 1975.
117. HINNERGARDT, L. C. Storage stability of roasted, thin-sliced, freeze-dried beef. 75-20-FEL (FEL-5), August 1974 (AD 787 275).
118. KONIGSBACHER, K. S. Methods for restoring shape and structure of compressed dehydrated animal and combination products. Foster D. Snell, Inc., Contract No. DAAG17-73-C-0030. 75-56-FEL (FEL-10), September 1975 (AD A009 734).
119. LAMPI, R. A., F. FIORI, K. H. HU, G. B. ORDWAY, G. L. SCHULZ, N. D. ROBERTS, and F. A. COSTANZA. Infrared radiometric scanning system for flexible package seal defects. 74-36-GP, December 1973 (AD A005 156).

FOOD ENGINEERING LABORATORY

Technical Reports (continued)

120. MILLER, A. Causes and control of condensation in shrink film unit loads under outdoor storage conditions. 75-6-FEL (FEL-3), September 1974 (AD 786 495).
121. NIBI, J. P., and V. A. RICARDI. Evaluation of an automatic mashed potato dispenser. 75-58-FEL (FEL-31), February 1975 (AD A008 377).
122. PALMER, H. H., L. S. TSAI, K. LJICKI, and C. A. HUDSON. Frozen egg products for Air Force missile sites. 75-73-FEL (FEL-21), 1974 (AD A009 749).
123. PAVEY, R. L. Study techniques for controlling flavor intensity in compressed foods Phase I. Swift & Co., Contract No. DAAG17-73-C-0121. 75-49-FEL (FEL-6), January 1975 (AD A006 031).
124. PELTRE, P. R. F. Freeze dehydration by microwave energy. Worcester Polytechnic Institute, Contract No. DAAG17-71-C-0001. 75-84-FEL (FEL-16), December 1974 (AD A009 578).
125. RAHMAN, A. R., H. GORFIEN, D. E. WESTCOTT, G. SCHAFER, and D. DUBOSE. Effect of storage conditions on the quality of compressed food bars. 75-64-FEL (FEL-28), January 1975.
126. \_\_\_\_\_, H. GORFIEN, N. KELLEY, G. SCHAFER, W. SWANTAK, and D. E. WESTCOTT. Production guides for vegetable entrees, soups, desserts, pastries and salads developed for use in central food preparation facilities - Fort Lee, interim facility. 75-35-FEL (FEL-13), September 1974 (AD A001 725).
127. RANADIVE, A. S., E. A. HUANG, and E. SELTZER. Investigation of rehydration characteristics of compressed comminuted meats. Rutgers University, Contract No. DAAG17-73-C-0015. 74-53-FEL (FEL-33), June 1974 (AD A009 104).
128. SALUNKHE, D. K., J. Y. DO, and C. SRISANGNAM. Investigations of factors to improve texture and color of freeze-dehydrated and subsequently compressed red tart pitted cherries. Utah State University, Contract No. DAAG17-72-C-0187. 74-51-FL (FL-196), June 1974 (AD 783 399).
129. SHULTS, G. W., and E. WIERBICKI. Changes in non-protein nitrogen content and the sensory characteristics of beef steaks as affected by the heat treatment. 75-8-FEL (FEL-2), July 1974 (AD 787 279).

## FOOD ENGINEERING LABORATORY

### Technical Reports (continued)

130. SKULTS, G. W., and E. WIERBICKI. Development of irradiated beef. I. Acceptance of beef loin irradiated at cryogenic temperatures. 74-57-FL (FL-182), July 1974 (AD 786 540).
131. \_\_\_\_\_, and E. WIERBICKI. Development of irradiated beef. II. Effects of irradiation temperature and dose on the quality of roast beef. 74-56-FL (FL-181), July 1974 (AD 786 539).
132. SMITH, D. P., and H. H. HARRIS. Factor in design and construction of a device for heating and dispensing food components. Associated Food Equipment Co., Contract No. DAAG17-73-C-0047. 75-41-FL (FEL-9), September 1974 (AD A006 196).
133. WADSWORTH, C. K. Extended shelf life of precooked refrigerated meals. 75-15-FEL (FEL-18), June 1974. (AD A002 052).
134. WALKER, G. C., H. T. SCHLUP, and J. M. TUOMY. Requirements for 25,000 servings of items selected from the 42-day menu. 75-71-FEL (FEL-14), April 1975 (AD A008 957).
135. \_\_\_\_\_, and J. M. TUOMY. The storage life of precooked frozen chicken. 75-24-FEL (FEL-11), October 1974 (AD A000 680).
136. YURASITS, S. J., K. BEHARI, and D. P. MACARTHUR. Disposability characteristics of military packaging materials. Booz, Allen & Hamilton, Inc., Contract No. DAAG17-73-C-0102. 75-33-FEL (FEL-1), December 1974 (AD A005 168).
137. ZIMPFER, D. C. Investigative study of the development of dry whole milk substitute for ration use. Fet Incorporated, Contract No. DAAG17-73-C-0119. 75-81-FEL (FEL-25), December 1974.

### Journal Articles

138. DECAREAU, R. V. Microwave meat roasting. Microwave Energy Appl. Newsl., 7(4):3-5 (1974).
139. \_\_\_\_\_ Developing food products for the microwave oven market. Microwave Energy Appl. Newsl., 8(1): 3-5, 14 (1975).

FOOD ENGINEERING LABORATORY

Journal Articles (continued)

140. DECAREAU, R. V. Multi-energy source oven and microwave thawing of packaged meat. *Microwave Energy Appl. Newsl.*, 8(2): 3-6 (1975).
141. \_\_\_\_\_ Editorial. *Microwave Energy Appl. Newsl.*, 8(3): 2 (1975).
142. HARRIS, N. E., and D. ROSENFELD. Margarine preservation with sorbate impregnated wrappers. *Food Process. Ind.*, 43(516): 23-26 (1974).
143. \_\_\_\_\_, A. S. HENICK, I. BLOCH, and D. E. WESTCOTT. Stability of candy fats. *J. Food Sci.*, 39(6): 1263-1264 (1974).
144. MA, Y. H., and P. R. PELTRE. Freeze-dehydration by microwave energy. Part I. Theoretical investigation. *A.I.C.H.E. J.*, 21(2): 335-344 (1975).
145. \_\_\_\_\_, and P. R. PELTRE. Freeze-dehydration by microwave energy. Part II. Experimental study. *A.I.C.H.E. J.*, 21(2): 344-350 (1975).
- ROWLEY, D. B., J. J. PREVITE, R. E. WELLS, R. A. LAMPI, and D. A. MIKELSON. See entry no. 315.
146. TO, E. C., R. E. MUDGETT, D. I. C. WANG, S. A. GOLDBLITH, and R. V. DECAREAU. Dielectric properties of food materials. *J. Microwave Power*, 9(4): 303-315 (1974).
147. WALLNER, S. J., and J. E. WALKER. Glycosidases in cell wall-degrading extracts of ripening tomato fruits. *Plant Physiol.*, 55(1): 94-98 (1975).

Technical Papers

148. AKREP, J. P. Commercial packaging for the military. Meeting, Research and Development Associates, New York, NY, 8-9 April 1975.
149. \_\_\_\_\_ Applied technology program. National Research Council, Committee on Packaging, US Army Natick Development Center, Natick, MA, 6-7 May 1975.
150. \_\_\_\_\_ Disposability of packaging materials. Army Packaging Board Meeting, Tobyhanna Army Depot, Tobyhanna, PA, 20-21 May 1975.



## FOOD ENGINEERING LABORATORY

### Technical Papers (continued)

151. BROCKMANN, M. C. Research and development of animal food products. Seminar, Departments of Animal Sciences, Dairy Sciences, Food Science and Nutrition, and Poultry Science, Ohio State University, Columbus, OH, 3 March 1975.
152. BRYNJOLFSSON, A. Various titles. Seminars in Radiation Technology for the Future Staff of the Iranian Irradiation Center, Ministry of Industry and Mines, Tehran, Iran, December 1974.
153. \_\_\_\_\_ Food irradiation. Seminar on Food Irradiation, Rensselaer Polytechnic Institute, Troy, NY, 3 March 1975.
154. COHEN, J. S., and G. W. SHULTS. Variables affecting the acceptability of irradiation sterilized ground beef products. American Society of Agricultural Engineers, 1974 Winter Meeting, Chicago, IL, 10-13 December 1974.
155. CORFIELD, D. B. Heat pipe heating - a new concept. Fall 1974 Meeting, R&D Associates for Military Food and Packaging Systems, Inc., US Army Natick Laboratories, Natick, MA, 16-17 October 1974.
156. COSTANZA, F. Packaging volume reduction - submarines. National Research Council, Committee on Packaging, US Army Natick Development Center, Natick, MA. 6-7 May 1975.
157. DECAREAU, R. V. Microwave heating, thawing and cooking. Microwave Heating Seminar, Kent State University, Kent, OH, 21 September 1974.
158. \_\_\_\_\_ Multi-energy source oven and microwave thawing of packaged meat. Fall 1974 Meeting, R&D Associates for Military Food and Packaging Systems, Inc., US Army Natick Laboratories, Natick, MA, 16-17 October 1974.
159. \_\_\_\_\_ Microwaves and nutrition: the role of the microwave oven in improving nutrition in food service. Food Service Workshop, Texas Department of Mental Health and Mental Retardation, Austin, TX, 10 March 1975.
160. HEILIGMAN, F., J. J. KILLORAN, A. ANELLIS, R. W. BAKER, C. MERPITT, JR., A. BRYNJOLFSSON, E. WIERBICKI, and E. S. JOSEPHSON. Recent advances in processing of shelf stable foods preserved by irradiation. 4th International Congress of Food Science and Technology, Madrid, Spain, 23-27 September 1974.

## FOOD ENGINEERING LABORATORY

### Technical Papers (continued)

161. HOLLENDER, H. A. Dehydration update. Fall 1974 Meeting, R&D Associates for Military Food and Packaging Systems, Inc., US Army Natick Laboratories, Natick, MA, 16-17 October 1974.
162. \_\_\_\_\_ Shelf stable foods in consumable forms. Workshop on Food Engineering, Texas A&M University, College Station, TX, 20 May 1975.
163. HU, K. H., and E. A. NEBESKY. Time-temperature indicating system. A progress report. American Defense Preparedness Association, Packaging, Handling, & Transportability Division, Fall Meeting, Barstow, CA, 31 October-1 November 1974.
164. HURWITZ, P., J. TOCCI, and I. A. TAUB. Rapid radiolytic reduction and oxidation of aqueous myoglobin solutions. 6th Northeast Regional Meeting, American Chemical Society, Burlington, VT, 18-21 August 1974.
165. JOHNSON, H. C., N. RAICA, and R. W. BAKER. The wholesomeness testing of radappertized, enzyme-inactivated beef--a progress report. 4th International Congress of Food Technologists, Madrid, Spain, 23 September 1974.
166. \_\_\_\_\_, N. RAICA, and R. W. BAKER. The wholesomeness testing of radappertized, enzyme-inactivated beef--a progress report. Indepartmental Committee on Radiation Preservation of Food Meeting, US Army Natick Laboratories, Natick, MA, 15 October 1974.
- JOSEPHSON, E. S., A. BRYNJOLFSSON, and E. WIERBICKI. See entry no. 38.
- \_\_\_\_\_, M. H. THOMAS, and W. K. CALHOUN. See entry no. 39.
167. KILLORAN, J. J. Time-temperature indicating system for foods stored in non-frozen state. Meeting, Research and Development Associates, New York, NY, 8-9 April 1975.
168. KLICKA, M. V. Development of new foods, including space foods. School of Nursing, Boston University, Boston, MA, 1 July 1974.

## FOOD ENGINEERING LABORATORY

### Technical Papers (continued)

169. KLIKA, M. V. New food developments for the Armed Forces. Simmons College, Boston, MA, 30 October 1974.
170. \_\_\_\_\_ New food products. DA Food Service Conference, US Troop Support Agency, Ft. Lee, VA, 19-21 November 1974.
171. \_\_\_\_\_ Food processing and food substitutes. Regis College, Weston, MA, 9 December 1974.
172. \_\_\_\_\_ New food developments of the Armed Forces. Newton South High School, Newton Centre, MA, 16 January 1975.
173. \_\_\_\_\_ The changing food supply: threat or challenge. Home Economists in Business, Hotel Sonesta, Cambridge, MA, 10 April 1975.
174. \_\_\_\_\_ New foods for the military including space foods. Holliston Middle School, Holliston, MA, 18 April 1975.
175. \_\_\_\_\_ Research and development effort of the US Army Natick Development Center relating to food and food packaging technology. American Frozen Food Council, Fort Benning, GA, 24 April 1975.
176. \_\_\_\_\_ New food for the military and use to date in space feeding. Ft. Devens Elementary School, Ft. Devens, MA, 28 April 1975.
177. LAUPI, R. A. The current prognosis for flexible packaging of military rations. 1974 Packaging Institute Forum, Packaging Institute, Chicago, IL, 7 October 1974.
178. \_\_\_\_\_ Packaging food for service. 1974 Conference, Society for the Advancement of Food Service Research, Skokie, IL, 1 November 1974.
179. \_\_\_\_\_ Packaging food for service. Western Massachusetts Food Executive Meeting, Northampton, MA, 18 February 1975.
180. \_\_\_\_\_ "Flexpack". National Research Council, Committee on Packaging, US Army Natick Development Center, Natick, MA, 6-7 May 1975.

## FOOD ENGINEERING LABORATORY

### Technical Papers (continued)

181. LAMPI, R. A. Product protection (packaging & prevention of spoilage). Food Engineering Workshop, National Science Foundation, College Station, TX, 19-21 May 1975.
182. \_\_\_\_\_, G. L. SCHULZ, T. CIAVARINI, and P. T. BURKE. Performance and integrity aspects of flexible package seals. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 8-11 June 1975.
183. MANSUR, R. Reduction of packaging waste. 3rd Annual Packaging Seminar, US Army Natick Laboratories, Natick, MA, 2-3 October 1974.
184. \_\_\_\_\_ Packaging waste reduction. National Research Council, Committee on Packaging, US Army Natick Development Center, Natick, MA, 6-7 May 1975.
185. MARTIN, T. G. Accelerator radiation protection. Environmental Protection Agency, Winchester Laboratory, Winchester, MA, 6 May 1975.
186. \_\_\_\_\_ Radiation protection. Staff Nurses, Memorial Hospital, Worcester, MA, 22 May 1975.
187. MEHRLICH, F. P. The moment. Semi-Annual Meeting, Research & Development Associates for Military Food and Packaging Systems, Inc., US Army Natick Laboratories, Natick, MA, 16-17 October 1974.
188. \_\_\_\_\_ Foods around the world. Wellesley Kiwanis Club, Wellesley, MA, 6 March 1975.
189. \_\_\_\_\_ Foods around the world. Needham Elderly Citizens. Needham, MA, 25 March 1975.
- MERRITT, C., JR., P. ANGELINI, E. WIERBICKI, and G. W. SHULTS. See entry no. 379.
190. MOORE, K. A. Restructured meats and flexible packaging. Veterinary Officer Refresher Class, Ft. Sam Houston, TX, 12 November 1974.
191. \_\_\_\_\_ Merchandizing market--ready beef. Meat Merchandizing and Requirements Seminar, Alameda, CA, 18-19 December 1974.

## FOOD ENGINEERING LABORATORY

### Technical Papers (continued)

192. NEBESKY, E. A. The flexible can for packaging foods. Western National Packaging Association, Pebble Beach, CA, 18-19 October 1974.
193. \_\_\_\_\_ Canning foods in flexible packages. Arizona Chapter, Society of Packaging & Handling Engineers, Tuscon, AZ, 18 November 1974.
194. NYKVIST, W. E., and R. V. DECAREAU. Microwave meat roasting. Microwave Power Symposium, 1975 International Microwave Power Institute, University of Waterloo, Waterloo, Ontario, 27-30 May 1975.
195. PELTRE, P. R., and Y. H. MA. Application of computer simulation in the study of microwave freeze-drying. International Microwave Power Institute Symposium, University of Waterloo, Ontario, Canada, 28 May 1975.
196. PRATT, J. J., JR. Insect control strategies based on nutritional principle: a prospectus. Annual Meeting, Eastern Branch, Entomological Society of America, Hershey, PA, 25 September 1974.
197. \_\_\_\_\_ A report on the 1st International Working Conference on stored product entomology. Armed Forces Pest Control Board, Washington, DC, 11 December 1974.
198. \_\_\_\_\_ Insect resistant packaging. National Research Council, Committee on Packaging, US Army Natick Development Center, Natick, MA, 6-7 May 1975.
199. RAIMAN, A. R. Food around the world. Beirut Rotary Club, Beirut, Lebanon, 22 July 1974.
200. \_\_\_\_\_ Future research and development in fruits and vegetable products. US Army Natick Development Center, Natick, MA, 20 March 1975.
201. \_\_\_\_\_, G. SCHAFER, W. SWANTAK, E. POWERS, and D. E. WESTCOTT. Extension of shelf life of precut ready-to-use lettuce. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 11 June 1975.
202. RINGLE, E. C., and B. D. DAVID. Measuring electric field distribution in a microwave oven. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 8-11 June 1975.

## FOOD ENGINEERING LABORATORY

### Technical Papers (continued)

203. SCHULZ, G. L. Munitions. National Research Council, Committee on Packaging, US Army Natick Development Center, Natick, MA, 6-7 May 1975.
204. SHULTS, G. W., J. S. COHEN, and E. WIERBICKI. Radiation inactivation of meat proteases as determined by a  $^{14}\text{C}$ -labeled hemoglobin method. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 11 June 1975.
205. SZCZEBLOWSKI, J. Tray packs. National Research Council, Committee on Packaging, US Army Natick Development Center, Natick, MA, 6-7 May 1975.
206. TAUB, I. A., J. TOCCI, and P. HURWITZ. Yield and reactivity of electrons in viscous ethanediol-water solutions between  $-90^{\circ}$  and  $-130^{\circ}\text{C}$ . 5th International Congress on Radiation Research, Seattle, WA, 14-20 July 1974.
207. \_\_\_\_\_, A. KAPRIELIAN, J. W. HALLIDAY, J. WALKER, R. A. ROBBINS, P. A. HURWITZ, P. ANGELINI, and C. MERRITT, JR. Radiation chemistry of food and food related systems. Interdepartmental Committee on Radiation Preservation of Food, US Army Natick Laboratories, Natick, MA, 15 October 1974.
208. TUOMY, J. M. Quality evaluation of frozen entree items. Symposium on Objective Methods for Food, Newton, MA, 7-8 November 1974.
209. WALLNER, S. J. Glycosidases in ripening tomato fruits. 25th Annual Meeting, American Institute of Biological Sciences, Tempe, AZ, 16-21 June 1974.
210. WESTCOTT, D. E. Subsisting the Armed Forces - the technical squeeze. Research and Development Associates, 29th Meeting, New York, NY, 8-9 April 1975.
211. WHITE, V. M. The foods in your future. Dietetic Interns of Greater Boston, Beth Israel Hospital, Boston, MA, 5 May 1975.
212. WIERBICKI, E., F. HEILIGMAN, and A. E. WASSERMAN. Cured meats with reduced nitrite preserved by radappertization. European Meeting of Meat Research Workers, Dublin, Ireland, 15-20 September 1974.

## FOOD ENGINEERING LABORATORY

### Technical Papers (continued)

213. WIERBICKI, E., F. HEILIGMAN, J. S. COHEN, and J. W. PENSABENE. Cured, smoked ham with greatly reduced nitrite and nitrate preserved by radappertization. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 8-11 June 1975.
214. \_\_\_\_\_, J. J. HOWKER, and G. W. SHULTS. Effect of salt, phosphates and other curing ingredients on water-holding capacity of lean ham meat and the quality of smoked processed ham. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 10 June 1975.

### Other Publications

215. AKREP, J. P., and P. T. BURKE. Summary of the Proceedings of the Third Annual AMC Packaging Seminar. US Army Natick Development Center, Natick, MA, April 1975.
216. BROCKMANN, M. C. Freeze drying. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 457-466.
217. BRYNJOLFSSON, A. Cobalt-60 irradiator designs. In Technical Developments and Prospects of Sterilization by Ionizing Radiation. Multiscience Publications Ltd, Montreal, Canada, 1974, pp. 145-172.
218. DECAREAU, R. V. Microwave food processing. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 600-603.
219. HEILIGMAN, F., J. J. KILLORAN, A. ANELLIS, R. W. BAKER, C. MERRITT, JR., A. BRYNJOLFSSON, E. WIERBICKI, and E. S. JOSEPHSON. Recent advances in processing of shelf stable foods preserved by irradiation. Abstract of Papers, 4th International Congress of Food Science and Technology, 23-27 September 1974, pp. 113-115.
220. JOHNSON, H. C. Animal feeding experiment in the wholesomeness testing of radappertized beef. (16mm. Sound Motion Picture, Color, 25 Minutes), March 1975.

FOOD ENGINEERING LABORATORY

Other Publications (continued)

221. JOHNSON, H. C. The United States Army's Radiation Preservation of Food Program. January 1975. (Brochure)
- JOSEPHSON, E. S., M. H. THOMAS, and W. K. CALHOUN. See entry no. 46.
222. KILLORAN, J. J. Irradiation of multilayered materials for packaging thermoprocessed foods. In Advances in Chemistry Series 135, Chemistry of Food Packaging, American Chemical Society, Washington, DC, 1974, pp. 87-94.
223. \_\_\_\_\_, E. WIERBICKI, G. P. PRATT, K. R. RENTMEESTER, E. W. HITCHLER, and W. A. FOURIES. Tinplate containers for packaging irradiation sterilized foods. In Advances in Chemistry Series 135, Chemistry of Food Packaging, American Chemical Society, Washington, DC, 1974, pp. 22-34.
224. KLIKA, M. V. Space foods and their development. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 828-840.
225. MEHRLICH, F. P. Military foods. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 603-607.
226. RAHMAN, A. R. Fabricated foods. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 388-389.
227. SWIFT, J. Clean rooms. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, p. 226.
228. TAUB, I. A. Radiation chemistry of food and food related systems. Introductory comments. In Minutes, 1974 Annual Meeting, The Interdepartmental Committee on Radiation Preservation of Food, Attachment B. US Department of Commerce, 1975, pp. 1-2.
229. \_\_\_\_\_, and R. A. KAPRIELIAN. Radiolysis of frozen aqueous systems: polycrystalline chloracetic acid solutions at -40°C. In Minutes, 1974 Annual Meeting, The Interdepartmental Committee on Radiation Preservation of Food, Attachment B. US Department of Commerce, 1975, pp. 3-6.



## FOOD ENGINEERING LABORATORY

### Other Publications (continued)

230. HALLIDAY, J. W. The electron spin resonance spectra of irradiated myosin. In Minutes, 1974 Annual Meeting, The Interdepartmental Committee on Radiation Preservation of Food, Attachment B. US Department of Commerce, 1975, pp. 7-10.
231. WALKER, J. Electrophoretic evidence for aggregation of irradiated myosin. In Minutes, 1974 Annual Meeting, Interdepartmental Committee on Radiation Preservation of Food, Attachment B. US Department of Commerce, 1975, pp. 11-12.
232. ROBBINS, F. M. The effect of irradiation on proteins: myosin and actomyosin. In Minutes, 1974 Annual Meeting, Interdepartmental Committee on Radiation Preservation of Food, Attachment B. US Department of Commerce, 1975, pp. 13-16.
233. HURWITZ, P. A. Radiolysis of iron-containing food component systems. In Minutes, 1974 Annual Meeting, Interdepartmental Committee on Radiation Preservation of Food, Attachment B. US Department of Commerce, 1975, pp. 17-19.
234. ANGELINI, P. Analysis of volatile compounds from irradiated beef. In Minutes, 1974 Annual Meeting, Interdepartmental Committee on Radiation Preservation of Food, Attachment B. US Department of Commerce, 1975, pp. 19-23.
235. TAUB, I. A., P. ANGELINI, and C. MERRITT, JR. Irradiated food: validity of extrapolating wholesomeness data. In Minutes, 1974 Annual Meeting, Interdepartmental Committee on Radiation Preservation of Food, Attachment B. US Department of Commerce, 1975, pp. 24-33.
236. WIERBICKI, E., F. HEILIGMAN, and A. E. WASSERMAN. Cured meats with reduced nitrite preserved by radappertization. Proceedings, 20th European Meeting of Meat Research Workers, pp. 100-102.

### Patents

237. HARRIS, N. E., A. P. UMINA, and D. E. WESTCOTT. Baking powder of improved stability and method of producing same. U.S. Patent No. 546,954, 4 February 1975.

FOOD ENGINEERING LABORATORY

Patents (continued)

- 238. MILLER, A. Apparatus and method for determining tightness of film over a container or an assembly of containers. US Patent No. 3,877,302, 3 June 1975.
- 239. MUTCHLER, P. A. Liquid fuel-fired grille. US Patent No. 3,837,329, 24 September 1974.
- 240. SCHAFER, G. R., and A. R. RAHMAN. Directly edible and rapidly rehydratable compacted and dehydrated food bar. US Patent No. 3,882,253, 6 May 1975.
- 241. SHULTS, G. W., and E. WIERBICKI. Method of producing corned beef. US Patent No. 3,845,227, 29 October 1974.

## FOOD SCIENCES LABORATORY

### Technical Reports

- BOWLES, W. A., V. A. ADOMAITIS, J. B. DEWITT, and J. J. PRATT, JR. See entry no. 110.
242. BRANCH, L. G., H. L. MEISELMAN, and L. E. SYMINGTON. A consumer evaluation of Air Force food service. University of Massachusetts, Contract No. DAAK03-74-C-0098. 75-22-FSL, July 1974.
243. \_\_\_\_\_, D. WATERMAN, L. E. SYMINGTON, and H. L. MEISELMAN. The consumer's opinions of the food service system: the 1973 Fort Lee survey. 74-49-PR, May 1974 (AD A002 116).
244. \_\_\_\_\_, J. WESTERLING, H. MEISELMAN, L. SYMINGTON. The consumer's opinions of the food service system: the 1973 Homestead Air Force Base survey. University of Massachusetts, Contract No. DAAK03-74-C-0098. 75-3-FSL, July 1974.
245. \_\_\_\_\_ Program evaluation: A consumer evaluation of alternative contractor concepts in government food service. 75-59-FSL, September 1974.
246. DOGLIOTTI, L. M., R. C. CHALK, L. A. SPANO, and D. H. SIELING. Decomposition of nitrocellulose using aqueous ammonia. 75-14-FSL, July 1974 (AD 787 283).
247. EGGEMEIER, F. T., J. M. MCGINNIS, and C. K. BENDEL. A human factors survey of army tentage. 75-32-FSL, April 1974 (AD A008 956).
248. JACOBS, H. L., R. C. GRAEBER, H. R. MOSKOWITZ, T. J. E. REED, D. WATERMAN, W. I. RODIER, III, and W. C. WETSEL. The acceptability of whey-soy mix as a supplementary food for pre-school children in developing countries. 74-20-PR, December 1973 (AD 772 930).
249. MEISELMAN, H. L., D. WATERMAN, and L. E. SYMINGTON. Armed forces food preferences. 75-63-FSL, December 1974.
250. MUNSEY, D. T., JR., W. BATCHELDER, and A. CHRISTJANSEN. The relationship of intestinal bacteria and diet composition to amino acid requirements of white mice. 74-47-FL, February 1975 (AD A007 118).
251. ILSWORTH, M. N., JR., and H. J. HOGE. Rapid thawing and heating of foods. 75-5-FSL, September 1974 (AD A001 538).

## FOOD SCIENCES LABORATORY

### Technical Reports (continued)

- 252. SILVERMAN, G. J., E. M. POWERS, and D. B. ROWLEY. Microbiological analysis of the food preparation and dining facilities at Fort Myer and Bolling Air Force Base. 75-53-FSL, February 1975 (AD A007 128).
- 253. \_\_\_\_\_, E. M. POWERS, D. F. CARPENTER, and D. B. ROWLEY. Microbiological evaluation of the food service system at Travis AFB. 75-110-FSL, April 1975.
- 254. SMUTZ, E. R., H. L. JACOBS, D. WATERMAN, and M. CALDWELL. Small sample studies of food habits: I. The relationship between food preference and food choice in naval enlisted personnel at the Naval Construction Battalion Center, Davisville, Rhode Island. University of Rhode Island, Contract No. DAAG17-73-C-0208. 75-52-FSL, October 1974.
- 255. SPROUL, O. J. Investigation to increase the viricidal capacity of disinfectant, germicidal and fungicidal, phenolic, dry type. 75-90-FSL, February 1975.
- 256. Twenty-second Conference on Microbiological Deterioration of Military Materiel, 13-15 November 1973. 75-2-FSL, June 1974 (AD 921 868).\*
- 257. UMINA, A. P., N. J. KELLEY, and L. W. SMITH, JR. Effect on insect survival, rheological characteristics, and baking properties of flour canned in air or in nitrogen atmospheres. 74-41-74 (FL 163), February 1974 (AD 778 222).
- 258. WATERMAN, D., H. MEISELMAN, T. REED, L. SYMINGTON, and L. BRANCH. Food preferences of Air Force enlisted personnel. 75-51-FSL, August 1974 (AD A009 749).
- 259. \_\_\_\_\_, H. L. MEISELMAN, L. G. BRANCH, and M. S. TAYLOR. The 1972 Westover Air Force Base food preference survey and reliability study. 75-25-FSL, February 1974.

### Journal Articles

- 260. ALABRAN, D. M., H. R. MOSKOWITZ, and A. F. MABROUK. Carrot-root oil components and their dimensional characterization of aroma. J. Agric. Food Chem., 23(2): 229-232 (1975).
- 261. ANGELINI, P., C. MERRITT, JR., J. M. MENDELSON, and F. J. KING. Effect of irradiation on volatile constituents of stored haddock flesh. J. Food Sci., 40(1): 197-199 (1975).

# FOOD SCIENCES LABORATORY

## Journal Articles (continued)

262. BARKER, B. E., M. F. FOX, E. HAYON, and E. W. ROSS. Simple digital method for resolving overlapping electronic absorption bands. *Anal. Chem.*, 46(12): 1785-1789 (1974).
263. BAZINET, M. L., C. MERRITT, JR., and R. E. SACHER. Ion decomposition pathways for organometallic acetylides of group IV and V elements. *Proc. 22nd Ann. Conf. on Mass Spectrometry and Allied Topics*, p. 336 (1974).
264. \_\_\_\_\_, W. G. YEOMANS, and C. MERRITT, JR. Metastable ion evidence for fragmentation pathways in the mass spectra of organometallic acetylenes of Group IV and V elements. *Int. J. Mass Spectrosc. Ion Phys.*, 16(4): 406-416 (1975).
265. BECKER, E. E., and H. R. KISSILEFF. Inhibitory controls of feeding by the ventromedial hypothalamus. *Amer. J. Physiol.*, 226(2): 383-396 (1974).
266. BELL, R. A., L. E. SYMINGTON, and W. BEVAN. Watchkeeping performance as a function of certain properties of the viewing situation. *Human Factors*, 16(1): 65-69 (1974).
267. BENSEL, C. K., and J. M. LOCKHART. Cold-induced vasodilation onset and manual performance in the cold. *Ergonomics*, 17(6): 717-730 (1974).
268. BENT, D. V., and E. HAYON. Formation and reactions of the triplet state of sym-triazine in solution studied by laser spectroscopy. *Chem. Phys. Lett.*, 31(2): 325-327 (1975).
269. \_\_\_\_\_, E. HAYON, and P. N. MOORTHY. Quenching of triplet states of diazines by H-atom donors. Formation of azyl radicals. *Chem. Phys. Lett.*, 27(4): 544-547 (1974).
270. BISHOV, S. J., and A. S. HENICK. Antioxidant effect of protein hydrolysates in freeze-dried model systems. Synergistic action with a series of phenolics antioxidants. *J. Food Sci.*, 40(2): 345-348 (1975).
271. BLUHM, A. L., and J. WEINSTEIN. Spin trapping of alkoxy-carbonyl radicals from the photolysis of alkoxycarbonyl-mercury compounds. *Spectrosc. Lett.*, 8(1): 43-49 (1975).
- BOURLAND, C. T., N. D. HEIDELBAUGH, C. S. HUBER, P. R. KISER, and D. B. ROWLEY. See entry no. 13.

# FOOD SCIENCES LABORATORY

## Journal Articles (continued)

272. BRUHLMANN, U., and E. HAYON. One-electron redox reactions of water-soluble vitamins. I. Nicotinamide (vitamin B<sub>3</sub>) and related compounds. J. Amer. Chem. Soc., 96(19): 6169-6175 (1974).
273. CARPENTER, D. F., and G. J. SILVERMAN. Staphylococcal enterotoxin B and nuclease production under controlled dissolved oxygen conditions. Appl. Microbiol., 28(4): 628-637 (1974).
274. FOX, M. F., and E. HAYON. Correlation of the CTTS solvent scale with  $\nu_{\text{max}}$  of the solvated electron. Prediction of band maxima. Chem. Phys. Lett., 25(4): 511-514 (1974).
275. FREEMAN, L. R., P. ANGELINI, G. J. SILVERMAN, and C. MERRITT, JR. Production of hydrogen cyanide by Pseudomonas fluorescens. Appl. Microbiol., 29(4): 560-561 (1975).
276. GENSLER, W. J., S. F. LAWLESS, A. L. BLUM, and H. DERTOUZOS. Synthesis of 4-substituted isoquinolines. J. Org. Chem., 40(6): 733-739 (1975).
277. GINGRICH, J. B. Ultraviolet-induced histological and histochemical changes in the integument of newly-molted American cockroaches, Periplaneta americana. Canad. J. Zool., 53(2): 154-159 (1975).
278. GRAEBER, R. C. Food intake patterns in captive juvenile lemon sharks, Negaprion brevirostris. Copeia 1974(2): 554-556 (1974).
279. HINNERCARDT, L. C., S. R. DRAKE, and R. A. KLUTER. Grilled freeze-dried steaks. Effects of mechanical tenderization plus phosphate and salt. J. Food Sci., 40(3): 621-623 (1975).
280. JARBOE, J. K., and A. F. MABROUK. Free amino acids, sugars, and organic acids in aqueous beef extract. J. Agric. Food Chem., 22(5): 787-791 (1974).
281. KRUSKI, A. W., and K. A. NARAYAN. Some quantitative aspects of the disc electrophoresis of ovalbumin using amido black 10B stain. Anal. Biochem., 60(2): 431-440 (1974).
282. LOCKHART, J. M., H. O. KIESS, and T. J. CLEGG. Effect of rate and level of lowered finger surface temperature on manual performance. J. Appl. Psychol., 60(1): 106-113 (1975).

FOOD SCIENCES LABORATORY

Journal Articles (continued)

283. LOWE, E., E. L. DURKEE, D. F. FARKAS, and G. J. SILVERMAN. An idea for precisely controlling the water activity in testing chambers. *J. Food Sci.*, 39(5): 1072-1073 (1974).
284. MANDELS, M., L. HONTZ, and J. NYSTROM. Enzymatic hydrolysis of waste cellulose. *Biotachnol. Bioeng.*, 16(11): 1471-1493 (1974).
285. \_\_\_\_\_, J. NYSTROM, and D. BOLGER. Waste paper to glucose. *Activities Report*, 27(1): 134-146 (1975).
286. MCAULIFFE, W. K., and H. L. MEISELMAN. The roles of practice and correction in the categorization of sour and bitter taste qualities. *Perception and Psychophysics*, 16(2): 242-244 (1974).
287. MEISELMAN, H. L. Effect of response task on taste adaptation. *Percept. and Psychophys.*, 17(6): 591-595 (1975).
288. MERRITT, C., JR., C. DIPIETRO, D. H. ROBERTSON, and E. J. LEVY. Characterization of amino acids by pyrolysis/gas chromatography/mass spectrometry of their phenylthiohydantoin derivatives. *J. Chromatogr. Sci.*, 12(11): 668-672 (1974).
289. \_\_\_\_\_, D. H. ROBERTSON, J. F. CAVAGNARO, R. A. GRAHAM, and T. L. NICHOLS. A combined gas chromatography-mass spectrometry-computer system for the analysis of volatile components of foods. *J. Agric. Food Chem.*, 22(5): 750-755 (1974).
290. \_\_\_\_\_, R. E. SACHER, and B. A. PETERSEN. Laser pyrolysis-gas chromatographic-mass spectrometric analysis of polymeric materials. *J. Chromatogr.*, 99: 301-308 (1974).
291. ITTAL, J. P., and E. HAYON. Interaction of hydrated electrons with phenylalanine and related compounds. *J. Phys. Chem.*, 78(18): 1790-1794 (1974).
292. MOORTHY, P. N., and E. HAYON. Intermediates produced from the one-electron reduction of nitrogen heterocyclic compounds in solution. *J. Phys. Chem.*, 78(25): 2615-2620 (1974).
293. \_\_\_\_\_, and E. HAYON. One-electron redox reactions of water-soluble vitamins. III. Pyridoxine and pyridoxal phosphate (vitamin B<sub>6</sub>). *J. Amer. Chem. Soc.*, 97(8): 2048-2052 (1975).

# FOOD SCIENCES LABORATORY

## Journal Articles (continued)

294. MOORTHY, P. N., and E. HAYON. Radical intermediates produced from the one-electron reduction of lumazine in water. J. Phys. Chem., 79(11): 1059-1062 (1975).
295. MOSKOWITZ, H. R. Combination rules for judgments of odor quality difference. J. Agric. Food Chem., 22(5): 740-743 (1974).
296. \_\_\_\_\_, and C. L. GERBERS. Dimensional salience of odors. In Odors: Evaluation, utilization and control, ed. W. S. Cain. Ann. N.Y. Acad. Sci., (237): 1-16 (1974).
297. \_\_\_\_\_ The measurement of preferences for entire menus. Activities Report, 26(1): 174-184 (1974).
298. \_\_\_\_\_ Sensory evaluations by magnitude estimation. Food Technol., 28(11): 16-21 (1974).
299. \_\_\_\_\_ Sensory perception of sweetness. Cereal Sci. Today 19(7): 262-265, 279 (1974).
300. \_\_\_\_\_, A. DRAVNIKS, W. S. CAIN, and A. TURK. Standardized procedure for expressing odor intensity. Chem. Senses and Flavor, 1(2): 235-237 (1974).
301. \_\_\_\_\_, and J. KAPSALIS. The texture profile: Its foundations and outlook. J. Texture Studies, 6(1): 157-166 (1975).
302. NARAYAN, K. A., J. J. MCMULLEN, D. P. BUTLER, T. WAKEFIELD, and W. K. CALHOUN. Effect of exercise on tissue lipids and serum lipoproteins of rats fed two levels of fat. J. Nutr., 105(5): 581-587 (1975).
303. \_\_\_\_\_, J. J. MCMULLEN, D. P. BUTLER, T. WAKEFIELD, and W. K. CALHOUN. The influence of a high level of dietary corn oil on rat serum and liver lipids. Nutrition Reports International, 10(1): 25-33 (1974).
304. PALMER, J. K., and W. B. BRANDES. Determination of sucrose, glucose, and fructose by liquid chromatography. J. Agric. Food Chem., 22(4): 709-712 (1974).
305. \_\_\_\_\_ A versatile system for sugar analysis via liquid chromatography. Anal. Lett., 8(3): 215-224 (1975).



# FOOD SCIENCES LABORATORY

## Journal Articles (continued)

306. POBER, Z., and W. K. CALHOUN. Effect of oxethazaine HCL on control of food and water intake in the rat. *Biochem. and Behav.*, 3: 69-74 (1975).
307. RAO, P. S., and E. HAYON. Interaction of hydrated electrons with the peptide linkage. *J. Phys. Chem.*, 78(12): 1193-1196 (1974).
308. \_\_\_\_\_, and E. HAYON. One-electron oxidation of odd-valent metal ions in solution. *J. Phys. Chem.*, 79(9): 865-868 (1975).
309. \_\_\_\_\_, and E. HAYON. Reaction of hydroxyl radicals with oligopeptides in aqueous solutions. A pulse radiolysis study. *J. Phys. Chem.*, 79(2): 109-115 (1975).
310. \_\_\_\_\_, and E. HAYON. Redox potentials of free radicals. IV. Superoxide and hydroperoxy radicals  $\cdot O_2^-$  and  $\cdot HO_2$ . *J. Phys. Chem.*, 79(4): 397-402 (1975).
311. ROBERTSON, D. H., and C. MERRITT, JR. Codification of mass spectral libraries for structural elucidation. *Proc. 22nd Ann. Conf. on Mass Spectrometry and Allied Topics*, p. 453 (1974).
312. \_\_\_\_\_, and C. MERRITT, JR. Diagnostic functions in the codification of mass spectral data. *Advan. Mass Spectrom.*, 6:1011-1017 (1974).
313. ROCHE, C. D., and L. W. SMITH, JR. Note on the rearing of Dermestes maculatus DeGeer (Coleoptera: Dermestidae). *Entomol. News*, 85(3): 85-87 (1974).
314. ROGERS, M. R., and A. M. KAPLAN. Biodegradation of some sulfur analogs of sodium p-(N-dodecyl) benzenesulfonates. *J. Amer. Oil Chem. Soc.*, 51(12): 554-561 (1974).
315. ROWLEY, D. B., J. J. PREVITE, R. E. WELLS, R. A. LAMPI, and D. A. MIKELSON. Radiometry and microcalorimetry: Techniques for the rapid detection of foodborne microorganisms. *Food Technol.*, 28(10): 52-58 (1974).
316. SEGARS, R. A., H. A. NORDSTROM, and J. G. KAPSALIS. Textural characteristics of beef muscles. *J. Texture Studies*, 5(3): 283-297 (1974).

FOOD SCIENCES LABORATORY

Journal Articles (continued)

317. SHETTY, P. S., and S. DUA-SHARMA. Clinical-metabolic profiles and taste preferences in undernourished subjects. Proc. Int. Union Physiol. Sci., 10: 248 (1974).
318. SIMIC, M. G., I. A. TAUB, J. TOCCI, and P. A. HURWITZ. Free radical reduction of ferricytochrome-c. Biochem. Biophys. Res. Commun., 62(2): 161-167 (1975).
319. SMUTZ, E. R., E. HIRSCH, and H. L. JACOBS. Caloric compensation in hypothalamic obese rats. Physiol. and Behav., 14(3): 305-309 (1975).
320. SYMINGTON, L. E. The unhappy, untrained military food service worker - myth or reality? Activities Report, 26(1): 185-188 (1974).
321. TREININ, A., and E. HAYON. Charge transfer spectra of halogen atoms in water. Correlation of the electronic transition energies of I, Br, Cl, OH and H with their electron affinities. J. Amer. Chem. Soc., 97(7): 1716-1721 (1975).

## FOOD SCIENCES LABORATORY

### Technical Papers

322. ANDREN, R. Removal of explosives from waste water. 30th Annual Purdue Industrial Waste Conference, Purdue University, West Lafayette, IN, 5-6 May 75.
323. \_\_\_\_\_ Production of sugars from waste cellulose by enzymatic hydrolysis. 8th Cellulose Conference, University of New York, College of Environmental Sciences and Forestry, Syracuse, NY, 18-21 May 75.
324. ANELLIS, A. A., E. SHATTUCK, and D. B. ROWLEY. Radiation sterilization of low level nitrite-nitrate ham. Inter-agency Botulism Research Coordinating Committee, Food & Drug Administration, Washington, DC, 3-4 October 1974.
325. ANGELINI, P., C. MERRITT, JR., and C. DIPIETRO. Studies of thermal degradation of lipids by combined pyrolysis-gas chromatography-mass spectrometry techniques. American Oil Chemists Society, Philadelphia, PA, 30 September - 4 October 1974.
326. \_\_\_\_\_, G. SILVERMAN, B. BOUCHER, and C. DIPIETRO. Deterioration determination of fresh chicken by combined pyrolysis/gas chromatography/mass spectrometry. Institute of Food Technologists, Chicago, IL, 8-11 June 1975.
327. BECKER, E., and H. R. KISSILIFF. Failure of VMH-lesioned rats to reattain obesity by eating large meals. 5th International Conference on Physiology of Food and Fluid Intake, Jerusalem, Israel, October 1974.
328. CARPENTER, D. Staphylococcal enterotoxin: detection and assay in foods. Fall Meeting Northeast Branch, American Society for Microbiology, Harvard Science Center, Cambridge, MA, 4 October 1974.
329. \_\_\_\_\_, and G. J. SILVERMAN. Enterotoxin A secretion characteristics in a fermenter. American Society for Microbiology, New York, NY, 27 April - 2 May 1975.
330. CHOWDHURY, M. S. U. A study of the spore antigens of Bacillus circulans complex by immunological methods. Winter Meeting, Northeast Branch, American Society for Microbiology, Boston, MA, 7 February 1975.
331. \_\_\_\_\_, D. B. ROWLEY, and A. ANELLIS. The influence of some cultural conditions on the recovery of Clostridium botulinum 62A spores. 75th Annual Meeting, American Society for Microbiology, New York, NY, 27 April - 2 May 1975.

FOOD SCIENCES LABORATORY

Technical Papers (continued)

332. FREEMAN, L. R., G. J. SILVERMAN, P. ANGELINI, and W. R. ESSELEN. Volatile components produced in non-radurized and radurized poultry during storage at 2 and 10°C. 4th International Congress of Food Science and Technology, Madrid, Spain, 22-27 September 1974.
333. \_\_\_\_\_, G. J. SILVERMAN, and P. ANGELINI. Volatiles produced by three pseudomonads isolated from spoiled poultry. American Society for Microbiology, New York, NY, 27 April - 2 May 1975.
334. GIFFEE, J. W. Retention and measurement of quality of foods. Research and Development Associates, US Army Natick Laboratories, Natick, MA, 16-17 October 1974.
335. HENICK, A. S. Round table on prediction of fat stability. Symposium on Objectives Method for Food Evaluation, Newton, MA, 7-8 November 1974.
336. HOFFMAN, M. Z., and E. HAYON. Environmental effects on the interaction of hydrated electrons with lysozyme. 5th International Congress of Radiation Research, Seattle, WA, 14-20 July 1974.
337. JACOBS, H. L. Further observations on the ontogeny of sweet preference. Conference on the Development of Sweet Preference, National Institutes of Health, National Institute of Dental Research, Bethesda, MD, June 1974.
338. \_\_\_\_\_ Food acceptance and food habits in man. Army Personnel Research Establishment, Farnborough, England, September 1974.
339. \_\_\_\_\_ Food acceptance and food habits in man. Food and Agricultural Organization (Nutrition), Rome, Italy, October 1974.
340. \_\_\_\_\_ Food acceptance and food habits in man. National Center for Research in Nutrition and Food Habits (CNERNA), Paris, France, October 1974.
341. \_\_\_\_\_ Symposium on Food Habits and Energy Balance in Man. Symposia on Nutrition and Food Habits, 24th International Congress of Physiological Sciences, New Delhi, India, October 1974.

FOOD SCIENCES LABORATORY

Technical Papers (continued)

342. JACOBS, H. L. Food acceptance and food habits in man. All India Institute of Medical Sciences (Rural Medicine Program) and Care Nutrition Staff, New Delhi, India, November 1974.
343. \_\_\_\_\_ Food acceptance and food habits in man. Central Food Technology Research Institute, Mysore, India, November 1974.
344. \_\_\_\_\_ Food acceptance and food habits in man. National Institute of Nutrition, Hyderabad, India, November 1974.
345. \_\_\_\_\_ Food acceptance and food habits in man. Department of Physiology, St. John's Medical College, Bangalore, India, November 1974.
346. \_\_\_\_\_ Food acceptance and program evaluation, Office of Nutrition, USAID, State Department, Washington, DC, November 1974.
347. KAPLAN, A. M. Microbial decomposition of synthetic polymeric materials. 1st International Congress, International Association of Microbiological Societies, Tokyo, Japan, 1-7 September 1974.
348. \_\_\_\_\_ Microbial degradation of materials. Department of Plant Pathology and Entomology, University of Rhode Island, Kingston, RI, 7 May 1975.
349. KAPSALIS, J. G. The influence of water on textural parameters in foods at intermediate moisture levels. International Symposium of Water Relations in Foods, Glasgow, Scotland, 9-14 September 1974.
350. \_\_\_\_\_ Some recent developments in the measurement of the textural properties of foods. Symposium on Objective Methods for Food Evaluation, Newton, MA, 7-8 November 1974.
351. KIM, C. Kinetics of cellulose hydrolysis by Trichoderma viride cellulase. 6th Northeastern Regional Meeting, American Chemical Society, Burlington, VT, 21 August 1974.
352. \_\_\_\_\_ Kinetics of cellulose hydrolysis by Trichoderma viride cellulase. AICHE-Verfahrenstechnische Gesellschaft (VTC) Joint Meeting, Munich, Germany, September 1974.

FOOD SCIENCES LABORATORY

Technical Papers (continued)

353. KISSILIFF, H. R., and E. BECKER. Influence of lactation on meal taking patterns in rats. 5th International Conference on Physiology of Food and Fluid Intake, Jerusalem, Israel, October 1974.
354. LEVINSON, H. S., and F. E. FEEHERRY. Influence of cations on nitrate-induced germination of spores of Bacillus megaterium QM B1551. 6th International Spore Conference, Michigan State University, East Lansing, MI, 10-13 October 1974.
355. \_\_\_\_\_ Spore germination colloquium, Convenor. 6th International Spore Conference, Michigan State University, East Lansing, MI, 10-13 October 1974.
356. \_\_\_\_\_, and F. E. FEEHERRY. Cations and germination of spores of Bacillus megaterium QM B1551 in nitrite or nitrate in the absence of organic germinants. 9th Annual Meeting, Northeast Branches, American Society for Microbiology, Albany, NY, 25-26 October 1974.
357. \_\_\_\_\_, and F. E. FEEHERRY. Influence of cations on nitrate induced germination of spores of Bacillus megaterium QM B1551. 9th Annual Meeting, Northeast Branches, American Society for Microbiology, Albany, NY, 25-26 October 1974.
358. MALTAIS, J., and W. R. CHESBRO. "M" band analysis of group D streptococci. 9th Annual Meeting, Northeast Branches, American Society for Microbiology, Albany, NY, 25-26 October 1974.
359. MANDELS, M. Microbial sources of cellulase. Seminar on Cellulose as a Chemical and Energy Resource, National Science Foundation, Berkeley, CA, 25-27 June 1974.
360. \_\_\_\_\_ Microbial and enzymatic conversion of cellulose. Symposium on Future Trends in Bioengineering, 6th Northeastern Regional Meeting, American Chemical Society, Burlington, VT, 21 August 1974.
361. \_\_\_\_\_ Bioconversion of waste cellulose. National Science Foundation Special Seminar, Washington, DC, 23-24 September 1974.

## FOOD SCIENCES LABORATORY

### Technical Papers (continued)

362. MANDELS, M. Sugar production from waste cellulose.  
Fall Meeting Northeast Branch, American Society for  
Microbiology, Harvard Science Center, Cambridge, MA,  
4 October 1974.
363. \_\_\_\_\_ Careers in microbiology. High School Career  
Day, Wellesley, MA, 14 November 1974.
364. \_\_\_\_\_ Status of Cellulase Program. 23rd Conference  
on Microbial Deterioration, US Army Natick Laboratories,  
Natick, MA, 19 November 1974.
365. \_\_\_\_\_ Course of 6 lectures in progress in cellulases.  
Center for Advanced Studies, National Polytechnic Insti-  
tute, Mexico City, Mexico, 2-13 December 1974.
366. \_\_\_\_\_ Enzymatic saccharification of waste cellulose.  
Series Forefront Areas of Chemical Engineering, Virginia  
Polytechnic Institute, Blacksburg, VA, 13 January 1975.
367. \_\_\_\_\_ Four lectures on cellulose production and ap-  
plications. ICA ITT, Guatemala City, Guatemala, 18-27  
February 1975.
368. \_\_\_\_\_ Enzymatic saccharification of waste cellulose.  
Worcester Polytechnic Institute, Worcester, MA, 3 March  
1975.
369. \_\_\_\_\_, J. NYSTROM, and D. BOLGER. Waste cellulose to  
glucose. Research and Development Associates, US Army  
Natick Laboratories, Natick, MA, 17 October 1974.
370. \_\_\_\_\_, and J. NYSTROM. Growth and cellulose pro-  
duction by Trichoderma. Symposium on Enzymatic Hydroly-  
sis of Cellulose, Helsinki, Finland, 12-14 March 75.
371. \_\_\_\_\_ Enzymatic saccharification of waste cellulose.  
Wellesley College, Wellesley, MA, 28 April 1975.
372. \_\_\_\_\_ Enzymatic saccharification of waste cellulose.  
Department of Microbiology, University of New Hampshire,  
Durham, NH, 6 May 1975.
373. \_\_\_\_\_ Natick Development Center Cellulose Program.  
Natick Rotary Club, Natick, MA, 17 June 1975.

FOOD SCIENCES LABORATORY

Technical Papers (continued)

374. MCCORMICK, N. G. Preliminary studies on the biodegradation of alpha-TNT: microbial reduction of the nitro groups. Fall Meeting Northeast Branch, American Society for Microbiology, Harvard Science Center, Cambridge, MA, 4 October 1974.
375. MEISELMAN, H. L. Effect of instructions on taste adaptation. Eastern Psychological Association, New York, NY, April 1974.
376. \_\_\_\_\_ The role of sweetness in the food preference of young adults. Conference on the Development of Sweet Preference, National Institutes of Health, National Institute of Dental Research, Bethesda, MD, June 1974.
377. \_\_\_\_\_ Food preference research. Department of Food Science, Cornell University, Ithaca, NY, August 1974.
378. \_\_\_\_\_ Taste and food preferences. Monell Chemical Senses Center, Philadelphia, PA, November 1974.
379. MERRITT, C., JR., P. ANGELINI, E. WIERBICKI, and G. W. SHULTS. Chemical changes associated with flavor in irradiated meat and fish. American Chemical Society, Atlantic City, NJ, 9-13 September 1974.
380. \_\_\_\_\_, C. DIPIETRO, and D. H. ROBERTSON. Characterization of amino acids by pyrolysis/gas chromatography/mass spectrometry of their phenylthiohydantoin derivatives. 10th International Symposium on Chromatography, Barcelona, Spain, 30 September-4 October 1974.
381. \_\_\_\_\_ Application of an on-line computer system for analysis of food components. Research and Development Associates, US Army Natick Laboratories, Natick, MA, October 1974.
382. \_\_\_\_\_ Laser pyrolysis GC/MC analysis of composite materials. 9th International Symposium in Chromatography, Houston, TX, 3-7 November 1974.
383. MOSKOWITZ, H. R. The method of magnitude estimation in sensory evaluation of food. Institute of Food Technologists, New Orleans, LA, May 1974.



## FOOD SCIENCES LABORATORY

### Technical Papers (continued)

384. MOSKOWITZ, H. R. Perceptual mapping of fruit juice flavors. Institute of Food Technologists, New Orleans, LA, May 1974.
385. \_\_\_\_\_ A system for the evaluation of military menus. Army Science Conference, West Point, NY, 18-21 June 1974.
386. \_\_\_\_\_ The psychophysics of sweetness preference. Conference on the Development of Sweet Preference, National Institutes of Health, National Institute of Dental Research, Bethesda, MD, June 1974.
387. \_\_\_\_\_, and J. G. KAPSALIS. Psychophysical relations in texture. Symposium on Advances in Food Texture, University of Guelph, Ontario, Canada, August 1974.
388. \_\_\_\_\_ Optimization and finding optimal combinations in psychophysics of food. Swedish Institute for Food Preservation Research, Gothenburg, Sweden, September 1974.
389. \_\_\_\_\_ Sensory analysis and psychophysics. Meat Research Institute, Langford, England, September 1974.
390. \_\_\_\_\_, and J. G. KAPSALIS. Toward a new theory of texture psychophysics. 4th International Congress of Food Science and Technology, Madrid, Spain, 23-27 September 1974.
391. \_\_\_\_\_ Sensory psychophysics and flavor evaluation. Tufts University Medical Center, Boston, MA, October 1974.
392. \_\_\_\_\_ Univariate functions in psychophysics. Conference on New Approaches to Old Problems, Philadelphia, PA, November 1974.
393. \_\_\_\_\_ Applications of multidimensional scaling to odor. Conference on New Approaches to Old Problems, Philadelphia, PA, November 1974.
394. \_\_\_\_\_, and D. PELL. Odor intensity and pleasantness for aliphatic alcohols via an air dilution olfactometer. Psychonomic Society, Boston, MA, November 1974.
395. \_\_\_\_\_ Taste, flavor and obesity. Massachusetts Dietetic Association, Cambridge, MA, December 1974.
396. \_\_\_\_\_ Congruence of aromas and aroma description. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 9 June 1975.

FOOD SCIENCES LABORATORY

Technical Papers (continued)

397. MUNSEY, D. T., B. BOUCHER, and G. SILVERMAN. The occurrence of enterobacteriaceae in raw salad vegetables. American Society for Microbiology, New York, NY, 27 April - 2 May 1975.
398. NARAYAN, K. A. Applications of electrophoretic methods in studies on lipoproteins. American Oil Chemists Society, Washington, DC, 13-15 June 1974.
399. \_\_\_\_\_ Electrophoretic methods for the separation of serum lipoproteins. American Oil Chemists Society, Washington, DC, 13-15 June 1974.
400. \_\_\_\_\_, J. J. MCMULLEN, D. P. BUTLER, T. WAKEFIELD, and W. K. CALHOUN. Serum lipoprotein concentration and synthesis, liver and serum lipids in rats maintained under conditions stimulating or inhibiting lipogenesis. Federation of American Societies for Experimental Biology, Atlantic City, NJ, 13-18 April 1975.
401. \_\_\_\_\_, and H. P. MORRIS. The influence of chemically induced and transplanted hepatomas on rat serum lipoproteins. 5th Hepatoma Conference, Silver Spring, MD, 9-10 June 1975.
402. PALMER, J. K. Sugar analysis by high performance liquid chromatography. Fall Meeting Northeast Branch, American Society for Microbiology, Harvard Science Center, Cambridge, MA, 4 October 1974.
403. \_\_\_\_\_ Carbohydrate analysis in foods via high performance liquid chromatography. Department of Food Science and Technology, Virginia Polytechnic Institute, Blacksburg, VA, 25 March 1975.
404. \_\_\_\_\_ Liquid chromatography for monitoring the conversion of cellulose wastes to sugars. 8th Cellulose Conference, State University of New York, Syracuse, NY, 20 May 1975.
405. PORTER, W. L. Food additives. Northeastern University, Burlington, MA, 25 July 1974.
406. \_\_\_\_\_, A. S. HENICK, and F. MURPHY. Autoxidation and effect of pro and antioxidants in dry monolayer systems and lyophilized red blood cell membranes. American Oil Chemists Society, Philadelphia, PA, 29 September - 2 October 1974.

## FOOD SCIENCES LABORATORY

### Technical Papers (continued)

407. PREVITE, J. J., R. WELLS, and D. B. ROWLEY. Radiometric detection of nonfermenters of glucose. 74th Annual Meeting, American Society for Microbiology, Chicago, IL, 12-17 May 1974.
408. \_\_\_\_\_, and D. B. ROWLEY. Radiometric assessment of microbiological levels in frozen meat entrees. 75th Annual Meeting, American Society for Microbiology, New York, NY, 27 April - 2 May 1975.
409. REESE, E. T. Enzymatic mechanisms for cellulose hydrolysis. Fall Meeting Northeast Branch, American Society for Microbiology, Harvard Science Center, Cambridge, MA, 4 October 1974.
410. ROGERS, M. Microbial deterioration of cutting fluids. Fall Meeting Northeast Branch, American Society for Microbiology, Harvard Science Center, Cambridge, MA, 4 October 1974.
411. ROWLEY, D. B., J. J. PREVITE, R. WELLS, R. LAMPI, and D. MIKELSON. New quality control techniques for the rapid detection of foodborne microorganisms. Army Science Conference, West Point, NY, 18-21 June 1974.
412. \_\_\_\_\_, and J. J. PREVITE. Radiometry: A rapid screening technique for estimating the level of foodborne bacteria. R&D Associates Fall Meeting, US Army Natick Laboratories, Natick, MA, 17 October 1974.
413. \_\_\_\_\_ Microbiological aspects of the military feeding system. 75th Annual Meeting, American Society for Microbiology, New York, NY, 27 April - 2 May 1975.
414. \_\_\_\_\_ Microbiological analysis of two military food preparation and dining facilities. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 8-12 June 1975.
415. SHANKMAN, S., and M. H. THOMAS. Variations in measurement of nutrient analyses. Institute of Food Technologists, Chicago, IL, 8-12 June 1975.
416. SILVERMAN, G. J. Regulation of staphylococcal enterotoxins A and B. Eastern Regional Laboratory, USDA, Philadelphia, PA, 7 January 1975.

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Technical Papers (continued)

417. SILVERMAN, G. J. Microbiology of large feeding systems. University of New Hampshire, Durham, NH, 5 March 1975.
418. \_\_\_\_\_ Microbiology of mass feeding systems - Introduction. American Society for Microbiology, New York, NY, 27 April - 2 May 1975.
419. \_\_\_\_\_ Methods for evaluating the sanitation and microbiological safety of military feeding systems. Institute of Food Technologists, Chicago, IL, 8-11 June 1975.
420. STERNBERG, D. Production of B-glucosidase in *Trichoderma* and its significance in saccharification of cellulose. Northeast Branch, American Society for Microbiology, Waltham, MA, 11 April 1975.
421. SYMINGTON, L. E., and H. L. MEISELMAN. Human factors and environmental design in military food service facilities: a survey approach. Annual Meeting, Human Factors Society, Huntsville, AL, 15-17 October 1974.
422. \_\_\_\_\_ The food service worker in the military dining facility: job satisfaction, training and human factors. Annual Meeting, Human Factors Society, Huntsville, AL, 15-17 October 1974.
423. \_\_\_\_\_ Psychological aspects of field feeding. Current trends in AMEDD psychology. Fitzsimons General Hospital, Denver, CO, December 1974.
- TAUB, I. A., R. A. KAPRIELIAN, J. W. HALLIDAY, J. E. WALKER, R. A. ROBBINS, P. A. HURWITZ, P. ANGELINI, and C. MERRITT, JR. See entry no. 207.
424. THOMAS, M., E. S. JOSEPHSON, and W. K. CALHOUN. Effects of ionizing radiation upon food nutrients - A review and update. 5th International Congress of Nutrition, Madrid, Spain, 23-27 September 1974.
425. THOMAS, M. Variations in measurement of nutrient analysis. 35th Annual Meeting, Institute of Food Technologists, Chicago, IL, 8-12 Jun 75.
426. TRAXLER, R. W., E. WOOD, and J. M. DELANEY. Bacterial degradation of alpha-TNT. Annual Meeting, Society for Industrial Microbiology, Memphis, TN, August 1974.

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### Technical Papers (continued)

427. WENDT, T. M. Biodegradation of nitroglycerine and bi-denitrification of nitrate from alkaline digestion of nitrocellulose. Senior Scientific Steering Group, ARO, Pollution Abatement Engineering Program for Munition Plant Modernization, Picatinny Arsenal, Dover, NJ, February 1974.

### Other Publications

428. CAIN, W. S., and H. R. MOSKOWITZ. Psychophysical scaling of odor. In Human Responses to Environmental Odors, J. Johnston, D. Moulton, and A. Turk, (eds). Academic Press, New York, NY, 1974, pp. 2-32.
429. GIFFEE, J. W. Ion exchange. In Encyclopedia of Food Technology. A. J. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 526-527.
430. MOSKOWITZ, H. R. Models of additivity for sugar sweetness. In Sensation and Measurement: Papers in Honor of S. S. Stevens. H. R. Moskowitz, B. Scharf and J. C. Stevens (eds). D. Reidel Publishing Company, Dordrecht, Holland, 1974, pp. 379-388.
431. \_\_\_\_\_, B. SCHARF, and J. C. STEVENS (eds). Sensation and measurement: Papers in honor of S. S. Stevens. D. Reidel Publishing Company, Dordrecht, Holland, 1974.
432. THOMAS, M. H. Vitamins. In Encyclopedia of Food Technology. A. H. Johnson and M. S. Peterson (eds). Avi Publishing Co., Westport, CT, 1974, pp. 932-939.

### Patents

433. ANDREOTTI, R. E. Liquid chromatography apparatus. US Patent No. 3,826,373, 30 July 1974.
434. BISHOV, S. J., and A. S. HENICK. Method of stabilizing foods with an antioxidant. US Patent No. 3,852,502, 3 December 1974.
435. SCHULZ, G. L., and R. T. MANSUR. Ultrasonic cleaning and welding apparatus. US Patent No. 3,823,055, 9 July 1974.

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